In summing up the evidence obtained from a comparative study of the living and fossil Marattiaceæ, Professor Bower recognizes the difficulties in reaching positive conclusions. However, while admitting that any conclusions reached must be subject to modification, his own view (p. 69) is that the circular sorus, like that found in the fossil Asterotheca, probably is the primitive type from which the others have been derived. The difference in form of the sorus, especially the extreme elongation in Danæa, is correlated with extension of the leaf surface. In another direction, by repeated constriction of the elongated sorus, the numerous scattered sori of Kaulfussia may have arisen.

It is to be regretted that our author did not make a fuller comparison of the Marattiaceæ and Ophioglossaceæ. He expresses no opinion as to the affinities of the two, beyond calling attention to the resemblances between the sporangial spike of Ophioglossum and the elongated sorus of Danæa, which resemblance he does not regard in the light of a true homology.

We are promised a study of the Leptosporangiatæ which will be awaited with keen interest by all students interested in these most important problems, which bear directly upon the question of the origin of the flowering plants as well as the ferns.

STANFORD UNIVERSITY,
May, 1898.

DOUGLAS HOUGHTON CAMPBELL.

Recent Inexpensive Popular Literature on Mushrooms. — The following papers more or less useful to collectors and eaters of fleshy fungi have come to our table within the year:

"Suggestions to Collectors of Fleshy Fungi," by Prof. L. M. Underwood. Reprinted from *Bull. 80 Alabama Agri. Exp. Station.* Cambridge Bot. Supply Co., Cambridge, Mass., July, 1897. 14 pp. Price, 25 cents.

"Mushrooms and Their Use," by Charles H. Peck, State Botanist of New York. 8vo, 80 pp., 32 cuts. Reprinted from *Cultivator and Country Gentleman*, Albany, N. Y., 1894. Cambridge Bot. Supply Co., May, 1897. Price, 50 cents.

"How to Grow Mushrooms," by William Falconer. *Farmers' Bulletin No. 53*, Division of Vegetable Physiology and Pathology. U. S. Dept. of Agriculture, Washington, D. C., March, 1897. 8vo, 19 pp., 14 figs. Free on application.

"Observations on Recent Cases of Mushroom Poisoning in the District of Columbia," by F. V. Coville. *Circular No. 13.* U. S.

Dept. of Agriculture, Division of Botany, Dec. 1, 1897. 21 pp., 21 figs. Free on application.

"Collecting and Preparing Fleshy Fungi for the Herbarium," by Prof. Edward A. Burt, *Botanical Gazette*, March, 1898. 8vo, 14 pp., 1 pl. Reprints of this may be had from Cambridge Bot. Supply Co., Cambridge, Mass.

"Some Edible and Poisonous Fungi," by Dr. W. G. Farlow, Professor of Cryptogamic Botany in Harvard University. *Bulletin No. 15*, Division of Vegetable Physiology and Pathology. U. S. Dept. of Agriculture, Washington, D. C., June, 1898. 8vo, 17 pp., 10 lithographic plates, one colored. Free on application. This latter publication, in particular, should be in the hands of every one who desires to distinguish wholesome from noxious species. To this end a large edition has been issued and the paper has also been included in the yearbook of the Department of Agriculture for 1897.

ERWIN F. SMITH.

Merrill on Lower California.[1] — The attention of botanists who are interested in œcology is called to this paper on account of a number of very interesting plates illustrating the strange vegetation of this peninsula. Very odd and striking are the pictures representing three of the common trees of this region, *viz.*, *Cereus pringlei*, *Fouquiera columnaris*, and *Veatchia cedrocensis*, the latter known as elephant wood. They are desert species which have become profoundly modified to adapt themselves to an adverse climate. Each one illustrates the extreme flexibility of living things, and at the same time speaks volumes regarding their hard, age-long struggle for existence, during which to hoard water every transpiring organ has been thrown away or reduced to the smallest possible compass. Concerning the Fouquiera, which reaches a height of 40 feet and a base diameter of 15 to 18 inches, Professor Merrill says: "A landscape of these pole-like forms, with their thorny branches and few small, brittle, thick, yellow-green leaves is weird in the extreme, and particularly so about dusk. Dry, hot, leafless, noiseless, and apparently lifeless, it conveys vividly to the imagination the idea of a burnt-out world."

ERWIN F. SMITH.

[1] *Notes on the Geology and Natural History of the Peninsula of Lower California.* By George P. Merrill, Curator, Dept. of Geology, U. S. National Museum. Washington, Gov. Printing Office, 1897.